ACCESSION NR: AP4033700

3% CO_2. The amount of terminal amino groups almost doubled on irradiation; with a 22 mrad dose this corresponded to the rupture of 1% of the C-N bonds in the polymer. The viscosity of the polymer also changes on irradiation--with 8 mrad irradiation the viscosity decreased during the first 30 hours, then increased, apparently due to the formation of cross-linked structures. The accumulation of hydroperoxide in polycaprolactam on gamma-irradiation in oxygen, the effect of radiation dose, the changes in terminal amino and carboxyl groups and the viscosity of the polymer were examined. H_2:CO ratio in these products was 2:1; terminal NH_2 and COOH groups increased at doses below 15 mrad and decreased above that. These data agree with changes in the IR spectra of the irradiated polycaprolactam. It is concluded that the RO_2 radical formed by radiation oxidation is converted to the hydroperoxide and carbonylcontaining compounds by a parallel route. Addition of 0.5-3% antioxidant di-β-naphthyl-p-phenylenediamine to the polymer does not affect the form of the EPR spectra or concentration of free radicals formed by gamma-irradiation; but this additive significantly lowers the amount of hydroperoxide and carbonyl-containing compounds formed by radiation oxidation. "N. S. Oleynik and M. T. Kozhura took part in the experimental work."... "The authors thank AN USSR academician A. I. Brodsko for help in the work and participation in its evaluation, and also

Card 2/3

ACCESSION NR: AP4033700

coworkers in the electron paramagnetic resonance laboratory for obtaining EPR spectra and help in evaluating the spectral data." Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo AN USSR, (Institute of Physical Chemistry); Kiyevskiy filial Vsesoyuznogo NII iskusstvennogo volokna, (Kiev Branch of the All Union NII of Synthetic Fibers)

SUBMITTED: 15May63 ENCL: 00

SUB CODE: OC, NP. NO REF SOV: 010 OTHER: 007

Card 3/3

ACCESSION NR: AP4040955 S/0020/64/156/005/1147/1149

AUTHOR: Brodskiy, A. I. (Corresponding member AN SSSR); Fomenko, A. S.; Abramova, T. M.; Furman, Ye. G.; Dar'yeva, E. P.; Kukhtenko, I. I.; Galina, A. A.

TITLE: EPR spectra of radicals formed during gamma irradiation of polyamides

SOURCE: AN SSSR. Doklady*, v. 156, no. 5, 1964, 1147-1149

TOPIC TAGS: electron paramagnetic resonance, EPR spectra, EPR radical spectra, polyamide, polyamide gamma irradiation, hexamethylene adipamide, poly-omega-undecane amide, deuterium, caproamide

ABSTRACT: The authors conducted this analysis because the literary data pertaining to the structure of radicals formed under the effects of irradiation are contradictory. The EPR spectra of poly-ε-caproamide were recorded. The irradiation and EPR spectra recording was taken at room temperature. The EPR spectrum of the gamma-irradiated poly-ε-caproamide is an incompletely resolved quintet 1 : 2 : 2 : 2 : 1 with an average width of 74 oersteds between the extreme maxima. The cleavage between the extreme pairs of lines 1-2 and 4-5 is 21 oersteds. This is 1.55 times less than the cleavage between the lines 2-4. This spectrum corresponds to a -CH -CO-NH-CH-CH - radical in which the unpaired

card 1/3 2 2

ACCESSION NR: AP4040955

electron interacts with one α-hydrogen and two equivalent β-hydrogens. The -CO-CD$_2$-(CH$_2$)$_3$-CD$_2$-NH- sample with deuterium in the two CH$_2$ groups neighboring the carbonyl and NH groups yields a fully resolved 1 : 2 : 1 triplet with a splitting of a_β = 28 oersteds, and with a general width of 56 oersteds between the extreme maxima. This spectrum corresponds to a -CD$_2$-CO-NH-CD-CH$_2$- radical. The spectra of irradiated polyamides containing 8 and 10 CH$_2$ groups in the monomer unit show incompletely split 1 : 3 : 3 : 1 quadruplets with identical 21 oersted cleavages. The spectrum for an irradiated completely-crystalline hexamethylene adipamide COOH-(CH$_2$)$_4$-CO-NH-(CH$_2$)$_6$-NH$_2$ is a satisfactorily resolved 1 : 2 : 2 : 2 : 1 quintet with a general width of 84 oersteds between the extreme maxima and with a_β = 21 oersteds and a_α/a_β = 2.0. It corresponds to a radical in which the hydrogen splits off from the CH$_2$ group in the β-position to the NH, just as in the poly-ε-caproamide radical. The irradiated ε-caprolactam monomer produces a poorly resolved spectrum. When deuterium is introduced into the methylene groups of the nondeuterated and deuterated caprolactam in the NH group a sharp change in the spectrum shape can be observed. The spectrum of the CO-CD$_2$(CH$_2$)$_3$CD$_2$ND sample is not as well resolved probably on account of the participation of the NH group hydrogen in the cleavage. This spectrum can evidently also be examined as a quadruplet with intensity ratio of 1 : 1 : 1 : 1 . Orig. art. has: 3 figures.

Card 2/3

ACCESSION NR: AP4040955

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo Akademii nauk UkrSSR (Institute of Physical Chemistry, Academy of Sciences Ukr SSR)

SUBMITTED: 09Mar64 ENCL: 00

SUB CODE: MP, OC NO REF SOV: 005 OTHER: 008

Card 3/3

ACCESSION NR: AT5002[illegible]

[illegible]

lactam

SOURCE: AN UkrSSR, Institut khimii vysokomolekulyarnykh soyedineniy. Sintez i [illegible]

TOPIC TAGS: polycaprolactam oxidation [illegible] radiation oxidation, free radical, antioxidant, IPP

ABSTRACT: Variations in the electron paramagnetic resonance spectra from irradiated (Co^{60}, 30C, vacuum, $2 \cdot 10^4$ to $200 \cdot 10^4$ joule/kg) polycaprolactam films (from acetate solutions, $10\text{-}12 \cdot 10^{-6}$m) in relation to temperature, radiation dose and atmospheric oxygen were analyzed in a study covering the behavior of free radicals, their participation in the radiative oxidation of a polymer and the inhibi-

Card 1/2

L 51867-65

ACCESSION NR: AT5002665

... Chromatographic ...

SUBMITTED: 22Jun64

ENCL: 00

SUB CODE: MT, NP

NO REF SOV: 002

OTHER: 003

Card 2/2

BRODSKIY, A.I.; FOMENKO, A.S.; ABRAMOVA, T.M.; DAR'YEVA, E.P.; GALINA, A.A.; FURMAN, Ye.G.; KOTORLENKO, L.A.; GARDENINA, A.P.

Radiation oxidation of poly-ε-caprolactam. Vysokom.soed. 7 no.1:116-122 Ja '65. (MIRA 18:5)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR i Kiyevskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusstvennogo volokna.

L 35343-66 EWT(m)/EWT(j)/T IJP(c) JWD/GG/RM

ACC NR: AP6012725 (A) SOURCE CODE: UR/0190/66/008/004/0770/0770

AUTHOR: Fomenko, A. S.; Krasnov, Ye. P.; Abramova, T. M.; Dar'yeva, E. P.; Furman, Ye. G.; Galina, A. A.

ORG: none

TITLE: Radiation resistance of isomeric aromatic polyamides

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 4, 1966, 770

TOPIC TAGS: radiation stability, aromatic polyamide, aliphatic polyamide, gamma irradiation, radiation resistance

ABSTRACT: The integral dose required for the accumulation of 1.10^{14} radicals in γ-irradiation of aromatic polyamides is shown to be one order higher than for aliphatic polyamides. The radiation yields of hydrogen during polymer irradiation are two orders lower than for aliphatic polyamides. There were no changes in IR-spectra and thermomechanical properties of samples γ-irradiated in vacuo and in the presence of oxygen. This proves the high radiation stability of aromatic polyamides. [Based on author's abstract.] [AM]

SUB CODE: 20, 11/ SUBM DATE: 22Nov65/ ORIG REF: 002

Card 1/1

UDC: 678.01:54+678.675

L 40099-66 EWT(m)/EWP(j)/T IJP(c) GG/RM

ACC NR: AP6019661 (A) SOURCE CODE: UR/0073/66/032/006/0549/0554

AUTHOR: Brodskiy, A. I.; Fomenko, A. S.; Dar'yeva, E. P.; Abramova, T. M.; Galina, A. A.; Furman, Ye. G.

ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, AN UkrSSR (Institut fizicheskoy khimii AN UkrSSR)

TITLE: Gas evolution during the radiative-oxidative degradation of poly-ε-caproamide

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 6, 1966, 549-554

TOPIC TAGS: polyamide, oxidative degradation, hydrogen, carbon monoxide, gamma radiation, radiation effect

ABSTRACT: Chromatographic analysis was used to find the radiation yields of hydrogen and carbon monoxide, the main gaseous products of the radiolysis and radiative oxidation of poly-ε-caproamide. G_{H_2} is about 1 mole/100 eV for both processes, and does not change as the dose rate increases from 0.4 to 5.0 x 10^{18} eV/g min. G_{CO} is equal to 0.3 mole/100 eV for radiolysis and to 0.6 mole/100 eV for radiative oxidation, and rises to 0.9 mole/100 eV as the dose rate increases from 0.4 to 5.0 x 10^{18} eV/g min. It was found that the combined action of gamma radiation and increased temperature approximately doubles the values of G_{H_2} and G_{CO} in both the radiolysis and radiative oxidation of poly-ε-caproamide in the case of a low dose rate of gamma radiation, and that the effect of this combined action on G_{H_2} and G_{CO} diminishes with increasing

Card 1/2 UDC: 678.01:54+678.675

L 40099-66

ACC NR: AP6019661

dose rate. It is shown that the stabilization of poly-ϵ-caproamide by the addition of the antioxidant di-β-naphthyl-p-phenylenediamine does not change G_{H_2} during radiolysis and radiative oxidation, but markedly reduces the amount of carbon monoxide formed during radiative oxidation. Orig. art. has: 6 figures and 3 tables.

SUB CODE: 07/ SUBM DATE: 31Jan64/ ORIG REF: 006

Card 2/2

AUTHORS: Abramova, T. S., Golant, V. Ye. 57-28-5-31/36

TITLE: On the Influence of Diffusion on the Formation of a Pulsed Superhigh Frequency Discharge in Argon (O vliyanii diffuzii na vozniknoveniye impul'snogo sverkhvysokochastotnogo razryada v argone)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 1096-1101 (USSR)

ABSTRACT: The authors communicate the results of the experimental determination of the dependence of the critical field strengths characterizing the formation of pulsed superhigh frequency discharges in argon, on the dimensions of the discharge volume at variable gas pressure. The experimental investigation was conducted in an apparatus, the block-scheme of which is shown in figure 1. The measurement methods were analoguous to the methods described in reference 2. According to reference 2 it is possible to compute the function $E_{cr.}$ vs. the field density and pressure by utilizing the dependence z^i vs. E determined in reference 1. The $E_{cr.}$ obtained from these computations is shown in figure 3. The optimum correspondence between the experimental and theoretical results are obtained at values of $z^i_{kr.} = 7 \cdot 10^6 \frac{1}{sec}$ ($w = 7.7$; $\eta^{1/2} g_o \approx 3.10^4$). According to the

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experimental data shown by figure 4 $\frac{E_{kr}}{E_{kr.\infty}} \gtrsim 1.1$ at $pl^2 < 0{,}1 \div 0.2$ cm^2 mm of mercury column (that is to say at $\frac{(pl)^2}{p\tau} < \div 2.1o^5$ cm^2/sec mm of mercury column). If for this case the value $z^i_{kr\infty}$ ($z^i_{kr.\infty} = 7.1o^6 \frac{1}{sec}$) and the quantity μ is correspondingly taken according to the curve of the paper mentioned in ref. 2 ($\mu \approx 3.5$) then $D \div \frac{1o^4}{p}$ cm^2/sec is obtained from formula 11.

$$\left(\frac{E_{kr}}{E_{kr\infty}}\right)^{\mu} = 1 + D\frac{\pi^2}{l^2 z^i_{kr\infty}} = 1 - (Dp)\frac{\pi^2}{w}\frac{p\tau}{(pl)^2} \quad (11)$$

This quantity is considerably smaller than the coefficient of the free electron diffusion. The magnitude of the effective diffusion coefficient proved to be an intermediate value between the values of the coefficient of free diffusion and of bipolar diffusion according to the conducted estimation. These considerations given for the explanation of the experimental results, of course, only have the character of a preliminary estimation. A rigorous analysis must take into consideration the determination of the intial spatial distribution of the electrons, the influence of diffusion on the electron distribut-

On the Influence of Diffusion on the Formation of a Pulsed Superhigh Frequency Discharge in Argon 57-28-5-31/36

ion and the influence of the space charge on the electron diffusion. There are 4 figures and 4 references, 3 of which are Soviet.

SUBMITTED: July 19, 1957

1. High frequency discharges--Analysis 2. Argon--Diffusion

Card 3/3

SOV/112-58-2-3426

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 250 (USSR)

AUTHOR: Abramova, T. V., Gizetulov, V. A., and Nedyzhiy, S. A.

TITLE: Cable Lead-Sheath Fault Localization by Radon (Opredeleniye mesta povrezhdeniya svintsovoy obolochki kabelya s pomoshch'yu radona)

PERIODICAL: Tr. Sektsii provodn. svyazi, Ukr. resp. pravl. Nauchno-tekhn. o-va, radiotekhn, i elektrosvyazi, 1956, Nr 2, pp 64-70

ABSTRACT: The Kiyev branch office of TsNIIS is developing a method of localizing cable lead-sheath faults by means of the radioactive inert gas radon. Experiments staged by the authors permit drawing the following conclusions: (1) In order to precisely localize the cable-sheath fault, the shortest possible fault-containing segment should be determined by a manometric or electric-signaling method. (2) The rate of radon flow in a 3x4x1.2* cable, at an air pressure of 1 atm, lies within 1-1.2 km/hour. (3) Radon diffusion to the surface of the ground in a sandy soil from a depth 1.2 m, with an average leakage of 6.47 mm^2, takes 1.5-2 hours. (4) Radon can be detected on the surface by radiometric

* Type MKB

Card 1/2

Cable Lead-Sheath Fault Localization by Radon

devices responding to α-β-γ-radiation; the radioactivity covers a small spot with a radius of 0.6-0.8 m, and with a maximum in the center of the spot. (5) The radiation maximum of the diffused radon can be displaced to one or the other side by not more than 1-2 m. (6) Soil temperature and moisture do not materially affect the radon diffusion under winter or summer conditions. (7) The detection of a leakage spot in a cable sheathing by means of radon is practically possible. Attention is called to the necessity of precautions in handling radon.

S.I.Kh.

Abramova, T.V.

ABRAMOVA, T.V., inzh., ml. nauch. sotr.; GIZETULOV, V.A., inzh., ml. nauch. sotr.; NEDUZHIY, S.A., inzh., ml. nauch. sotr.

Determining breaks in cable covering with the aid of radioactive gases. Vest. sviazi 17 no.12:4 D '57. (MIRA 10:12)

1. Kiyevskoye otdeleniye TSentral'nogo nauchno-issledovatel'skogo instituta svyazi.

(Electric cables)

ABRAMOVA, T.V.

21(7) [illegible]

[illegible] tyrive i [illegible]

Trudy... [illegible] Moscow, Izd-vo AN SSSR, 1958. 350 p. 4,500 copies printed.

Sponsoring Agencies: USSR. Glavnoye upravleniye po ispol'zovaniyu atomnoy energii, and Akademiya nauk SSSR.

Editorial Board of Set: V.I. Dikushin, Academician (Resp. Ed.), N.N. Shumilovskiy (Deputy Resp. Ed.), Yu. S. Zaslavskiy (Deputy Resp. Ed.), L.K. Tatochenko, B.I. Verkhovskiy, S.T. Nazarov, L.I. Petrenko, and N.G. Zelevinskaya (Secretary).

Ed. of Publishing House: P.N. Belyanin; Tech. Ed.: T.P. Poleneva.

PURPOSE: This book is intended for specialists in the field of machine and instrument manufacture who use radioactive isotopes in the study of materials and processes.

COVERAGE: This collection of papers covers a very wide field of the utilization of tracer methods in industrial research and control techniques. The topic of this volume is the use of radioisotopes in the machine-and instrument-manufacturing industry. The individual papers discuss the applications of radioisotope techniques in the study of metals and alloys, problems of friction and lubrication, metal cutting, engine performance, and defects in metals. Several papers are devoted to the use of radioisotopes in the automation of industrial processes, recording and measuring devices, quality control, flowmeters, level gauges, safety devices, radiation counters, etc. These papers represent contributions of various Soviet institutes and laboratories. They were published as Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science, April 4-12, 1957. No personalities are mentioned. References are given at the end of most of the papers.

ABRAMOVA, V. A.

CABLE

"Determination of Leak in Cable Sheath with the Aid of Radioactive Gases" by T.V. Abramova, V.A. Ginetulov and S.V. Moduzhiy, Engineers, Junior Scientists of the Cable Division, Scientific Research Institute for Communication. Vestnik Svyazi, No 12, December 1958, p 4.

Description of a method that permits determination of leakage in a cable with an accuracy to within 50 meters. The radioactive gas usually employed is radon and methyl bromide. A gamma counter is used as a detector.

Card: 1/1

ABRAMOVA, T.V., starshiy nauchnyy sotrudnik

Determination of the location of sheathing damage in communication lines by means of freon 22 gas. Avtom.telem.i sviaz' 3 no.10:35-36 O '59. (MIRA 13:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva svyazi.
(Electric lines--Testing)

ABRAMOVA, T.V., kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Use of silica gel in cables. Vest.sviazi 20 no.1:11-12 Ja '60.
(MIRA 13:5)

1. Kiyevskoye otdeleniye TSentral'nogo nauchno-issledovatel'skogo instituta svyazi Ministerstva svyazi SSSR.
(Electric cables) (Air--Drying)

ABRAMOVA, T.V., starshiy nauchnyy sotrudnik

Use of silica gel in the cable industry. Avtom., telem. i sviaz' 4 no. 12:32-34 D '60. (MIRA 14:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva svyazi.
(Silica) (Electric cables)

28799

S/138/61/000/009/003/011
A051/A129

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AUTHORS: Kuz'minskiy, A. S., Abramova, T. Ya., Zuyeva, M. V.

TITLE: Radiation vulcanization of butadiene-nitrile rubbers

PERIODICAL: Kauchuk i rezina, no. 9, 1961, 12 - 15

TEXT: The Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry) has carried out a laboratory study on conditions for radiation vulcanization of butadiene-nitrile rubber mixes and the properties of the vulcanizates obtained. The best results were achieved with two-component mixes consisting of rubber and carbon black. Channel black proved to be the most efficient filler. The optimum radiation dose was $15 - 20.10^6$r. Increase in the acrylonitrile content in rubber increased the tensile strength and relative elongation of the vulcanizates, but reduced their swelling in gasoline-benzene mixtures. Softeners, such as paraffin and stearin, improved the strength properties of the vulcanizates. Comparison of the properties of irradiation and sulfur vulcanizates of СКН-26 (SKN-26) and SKN-40 rubbers showed that the former have a higher elasticity, a lower melting point and a higher coefficient of low-temperature resistance. The two types of vulcanizates exhibit si-

Card 1/3

Radiation vulcanization of butadiene-nitrile rubbers

milar strength, hardness, swelling and abrasive properties. The laboratory results were confirmed by industrial tests of packing rings made with irradiation vulcanizates. The use of such vulcanizates in the manufacture of industrial rubber products makes possible a temperature range of -60 to +120°C for the application of butadiene-nitrile rubbers instead of -40 to +100°C. There are 4 tables, 3 figures and 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: A. Chapiro, Ind. Plast. Mod., 9, no. 1, 41 (1957); R. Harrington, Rubb. Age, 77, 865 (1955); D. J. Harmon, Rubb. Age, 86, no. 2 (1959); W. Jackson, D. Hale, Rubb. Age, 77, 865 (1955).

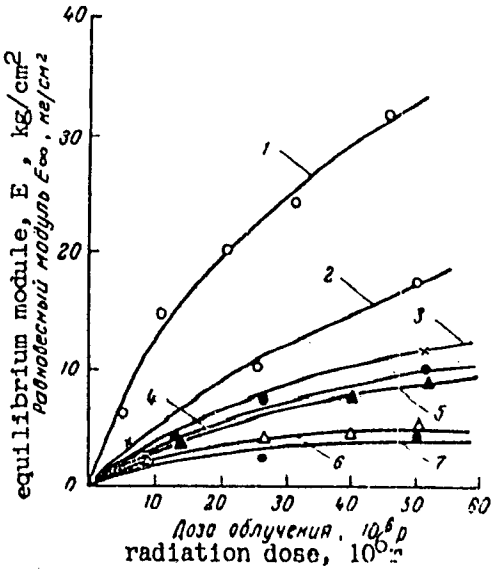
ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

S/138/61/000/009/003/011
A051/A129

Radiation vulcanization of butadiene-nitrile rubbers

Fig. 1. Relation of the magnitude of the equilibrium module of various rubbers to the radiation dose

Legend: 1 - SKN-40
2 - SKN-26
3 - SKB
4 - SKT
5 - SKS-30
6 - SKF-32
7 - NR



Card 3/3

ABRAMOVA, T.Ye.

Pages from the history of pediatrics in Kazan. Nauch. trudy Kaz. gos. med. inst. 14:5-6 '64. (MIRA 18:9)

1. Kafedra gospital'noy pediatrii (zav. - prof. A.Kh.Khamidullina) i kafedra organizatsii zdravookhraneniya s istoriyey meditsiny (zav. - prof. T.D.Epshteyn) Kazanskogo meditsinskogo instituta.

KHAMIDULLINA, A.Kh., doktor med.nauk; ABRAMOVA, T.Ye., aspirant

Professor Evgenii Nikolaevich Korovaev; obituary. Kaz.med.zhur. no.4:111-112 Jl-Ag '62. (MIRA 15:8)
(KOROVAEV, EVGENII NIKOLAEVICH, 1898-1962)

VIKHMAN, A.; SAVEL'YEV, V. (Arkhangel'sk); DEGTYAREV, N.; RYABENKOV, Ya.; BOBROVSKAYA, Z.; KULAGIN, N.; GROMADCHENKO, A. (g. Shakhty); MUN'KO, B. (g.Zaporozh'ye) ; STROGANOV, B. (Kaliningrad); KAZAKOV, P.; MAKAROV, L. (Dnepropetrovsk); ABRAMOVA, V. (Grodno); MOTCHENKO, V. (Kiyev); KRASNOV, A. (g. Al'met'yevsk); KAPLAN, Ya.; KASATKIN, I. (Yaroslavl').

Letters to the editors. Sov.profsoiuzy 16 no.4:44-49 F '60. (MIRA 13:3)

1. Chlen zavkoma, predsedatel' komissii okhrany truda moskovskogo zavoda "Elektrosvet" imeni P.N. Yablochkova (for Vikhman). 2. Glavnyy inzhner Kuchurganskogo cherepichno-kirpichnogo zavoda, selo Sokhal'-skoye, Rozdel'nyanskogo rayona, Odesskoy oblasti (for Degtyarev). 3. Dorozhnyy komitet professional'nogo soyuza rabotnikov zheleznodorozhnogo transporta, Sverdlovsk (for Bobrovskaya, Kulagin). 4. Novotrubnyy zavod, g. Pervoural'sk (for Kazakov). 5. Predsedatel' postroyechnogo komiteta 5-go stroyrayona tresta "Al'met'yevneftestroy" (for Krasnov). 6. Predsedatel' ob"yedinennogo postroykoma tresta "Khabarovskstroy" (for Kaplan). 7. Predsedatel' tsekhovogo komiteta otdela glavnogo tekhnologa Yaroslavskogo motornogo zavoda (for Kasatkin).

(Efficiency, Industrial) (Trade Unions)

BOCHVAR, A.A. (Moskva); ABRAMOVA, V.A. (Moskva); KHAN, M.G. (Moskva)

Twinning during the deformation of metals. Izv. AN SSSR. Met. i gor. delo no.1:92-94 Ja-F '64. (MIRA 17:4)

BLESHINSKIY, S.V.; DRUZHININ, I.G.; ABRAMOVA, V.F.; BLAKITNAYA, L.P.

Application of fertilizers and means for fighting forest and fruit pests. Trudy Inst.khim. AN Kir.SSR no.7:137-143 D '56.
(MIRA 10:3)
(Fertilizers and manures) (Trees--Diseases and pests)

ABRAMOVA, V. F.
25587

Eletrokhimicheskaya zashita stali ot korrozii i obezuglerozhiveniya v solyanykh vannakh. V sb: Jorroziya zashchita ot korrozii i elektroliz. M., 1948, s. 48-57.--Bibliogr: 10 Nazv.

SO: LETOPIS NO. 30, 1948

ABRAMOVA, V. F.

Mineral tanning agents from the vitriolic zone of the oxide ores of pendlandite formation. V. F. Abramova and I. K. Vozilov. *Trudy Kom. Inst., Mineral. Akad. Nauk S.S.S.R.* No. 4, 79–84(1951).—The vitriolic deposits contg. various sulfates of Fe, Al, K, and Na are used as tanning agents. Leather tanned with such sulfates alone has good properties but not good appearance. The addn. of chromic compds. and sulfite-pulp give satisfactory results. For successful operation, the vitriolic deposits must contain at least 5.8% of Fe_2O_3 and 4.6% of Al_2O_3. The use of such deposits for leather tanning results in economy of chromic compds. and org. tanning agents and omits the use of H_2SO_4. The time of operation is also reduced to 3 days.

Paul V. Feng

(1)

ABRAMOVA, Y. F.

3. PMC 1

sample of the new liquid phase is detd. The wt. of the ppt. is calcd. from the formula [illegible]

and I, impulses/min. in g. of soln. after dissolving the ppt.

M. Hosch

(1)

ABRAMOVA, V. F.

2

Fluoride method for determination of beryllium. S. V. Ilieshinskii and V. F. Abramova. *Primenenie Metchenykh Atomov v Anal. Khim., Trud. Konf. S.S.S.R. Inst. Geokhim. i Anal. Khim.* 1955, 45-57.—This method is based on the Tananaev-Talipov method (*C.A.* 33, 8139[1]). In preliminary expts. the optimum amts. of NaF and temp. of decompn. of beryl and the best conditions for pptn. of Fe were detd. In the latter expts. Fe^{59} was used. Based on the results of these expts. the following procedure for detn. of Be in beryl and concentrates is given: Fuse 1 g. of finely ground sample with 4 times as much NaF in a Pt crucible at 1000° for 30-45 min. Cool and decomp. with small portions of concd. H_2SO_4. Dissolve in H_2O, transfer to a beaker, heat to disappearance of turbidity, add 1 ml. Br water, boil, evap. to 60-70 ml., and nearly neutralize the acid with NH_4OH. Transfer into a 250-ml. volumetric flask, add 160 ml. 3% NaF soln., adjust pH to 8-9, dil. to the mark, and keep for 1 hr. (Al, Fe, etc., ppt. and settle out). Transfer 200 ml. of clear supernatant liquid into a Pt dish, add 10 ml. concd. H_2SO_4, and evap. first on a water bath, then on sand to appearance of white fumes. Dil. with H_2O, treat with NH_4OH free of CO_2, filter, and wash with 2% NH_4NO_3, neutralize with NH_4OH. Combine the filtrate and wash soln., acidify, evaporate to 150-200 ml., and repeat pptn. of Be. Combine filters, ignite, and weigh.

M. Hoch

1

RYABCHENKOV,A.V., professor, doktor khimicheskikh nauk; ABRAMOVA,V.F., inzhener

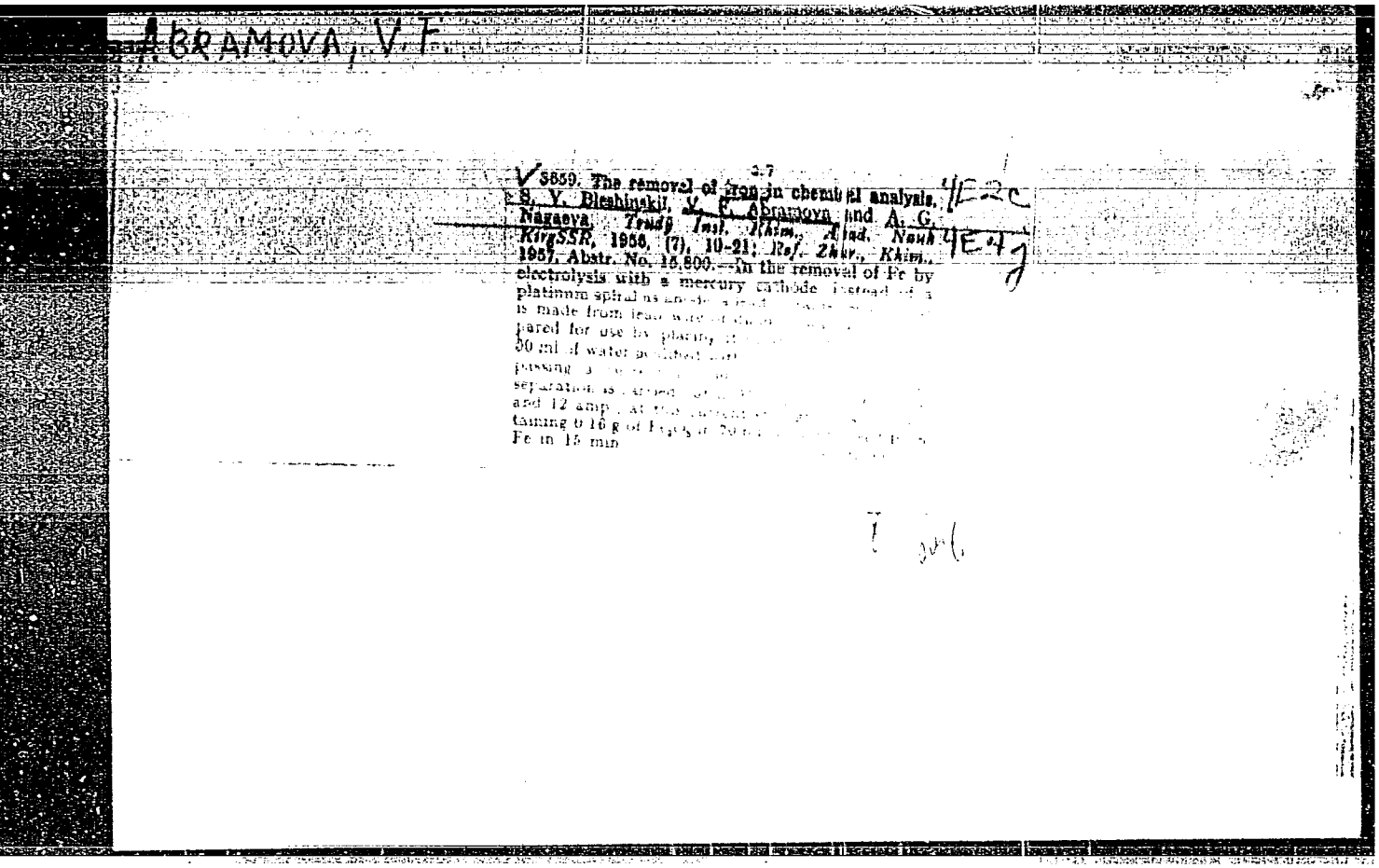
Combined methods for increasing the corrosion fatigue resistance of steel. Vest.mash.35 no.7:54-57 Jl'55. (MLRA 8:10)
(Steel--Corrosion)

Abramova, V.F.

Combination method for increasing corrosion fatigue resistance of steel. A. V. Ryabchenkov and V. P. Abramova. *Vestnik Mashinostroeniya* 35, No. 7, 64–7(1955); cf. C.A. 49, 5251c.—Specimens of 0.44% C, 0.69% Mn, 0.20% Si, 0.029% S, and 0.027% P steel were normalized and then cold-worked on the surface by shot blasting, rolling with a 10-mm. ball on a lathe with 0.24-mm. feed and 50 kg. pressure, and surface hardened with a high-frequency current to a depth of 1.6 mm. Samples so treated were chromium-plated, provided with a protective ring of Zn, or electrically galvanized and then tested for fatigue corrosion on a cantilever-type machine in a 3% NaCl solu. Normalized alone test bars showed a continuous decrease of resistance up to 40 × 10^6 cycles. Taking the resistance of normalized samples as 100, the authors obtained on Cr-plated normalized bars a resistance of 87, but the same plating increased the resistance of shot-blasted specimens to 172, of ball rolled to 185, and of those thermally treated to 300 based on a 7 × 10^6 cycle test. Tested with and without electrodeposited Zn protecting ring, the same specimens as before but not Cr-plated had corrosion strength of 6, 13.5, 11.5, 29.4 kg./sq. mm., resp., when no ring was used and 20.5, 23.0, 27.0, and 42.0 kg./sq. mm. when the ring was employed. Electrolytic galvanizing was applied to thermally treated samples alone, and after 10 × 10^6 cycles showed a fatigue strength of 44 kg./sq. mm. for galvanized and 36 kg./sq. mm. for the bare ones. J. D. Gut

RYABCHENKOV, A.V., doktor khimicheskikh nauk, professor; ABRAMOVA, V.F., inzhener.

Combined methods for increasing the corrosion resistance of steel. [Trudy] TSNIITMASH no.77:32-40 '55. (MLRA 9:7)
(Steel alloys--Corrosion)



ABRAMOVA, V.F.

V 3859. The removal of iron in chemical analysis. S. V. Bleshinskii, V. F. Abramova, and A. G. Nagaeva. *Trudy Inst. Khim., Acad. Nauk KirgSSR*, 1956, (7), 10-21; *Ref. Zhur., Khim.*, 1957, Abstr. No. 15,800.—In the removal of Fe by electrolysis with a mercury cathode [illegible] is made from [illegible] pared for use by [illegible] 50 ml of water [illegible] passing [illegible] separation is [illegible] and 12 amp, at [illegible] taining 0.16 g of [illegible] Fe in 15 min

8(2) SOV/112-59-3-5437

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 162 (USSR)

AUTHOR: Bleshinskiy, S. V., Abramova, V. F., and Nagayeva, A. G.

TITLE: Simple Voltage Stabilizer for Chemical Work
(Prostoy stabilizator napryazheniya dlya khimicheskikh rabot)

PERIODICAL: Tr. In-ta khimii AN KirgSSR, 1957, Nr 8, pp 171-173

ABSTRACT: A simple AC voltage stabilizer is described which is based on the nonlinear characteristic of incandescent lamps. The lamps are connected in the opposite arms of a bridge circuit. The unbalance voltage appearing on the bridge diagonal when the supply voltage fluctuates is added to the voltage of a transformer secondary. When the supply voltage changes by 15%, the output stabilizer voltage changes by only 3%. One illustration. Bibliography: 3 items.

V. Ye. Kh.

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5(2) PHASE I BOOK EXPLOITATION SOV/1460

Bleshinskiy, S. V., and V. F. Abramova

Khimiya indiya (Chemistry of Indium) Frunze, Akad. nauk Kirgizskoy SSR, 1958. 370 p. 500 copies printed.

Sponsoring Agency: Akademiya nauk Kirgizskoy SSR, Frunze.

Ed.: A. K. Mustayev; Tech. Ed.: M. V. Anokhina .

PURPOSE: The book is intended for chemists specializing in the chemistry of indium.

COVERAGE: The book is based on past literature and on the authors' own research up to 1956. The more recent investigations of Soviet scientists presented at a conference on the chemistry and technology of indium, gallium, and thallium held in Kiyev, June 28-30, 1956, are not included in this book. Important investigations in the fields of metallurgy, crystallography, chemistry, and analytical chemistry of indium were conducted by the following Soviet scientists: I. V. Tananayev, A. S. Komarovskiy, N. S. Poluektov, A. K. Rusanov, Yu. A. Chernikhov, B. N. Ivanov-Emin, E. S. Ostroumov,

Card 1/ 29

Абрамова В.Ф.

AUTHORS: Ryabchenkov, A. V., Nikiforova, V. I., 32-2-19/60
Abramova, V.F.

TITLE: The Micro-Electro-Chemical Method for the Investigation of the Corrosion of Metals Under Stress (Mikroelektrokhimicheskiy metod issledovaniya korrozii metallov pod napryazheniyem).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 167-173 (USSR)

ABSTRACT: An apparatus was developed which makes possible microscopic investigations of metal samples during stress in a corrosive medium as well as the measuring of the electric potential. In principle this apparatus is composed of a device for various weights effecting the change of the stress (tension) of the sample; then the basin with the corrosion liquid in which the sample to be investigated is placed, the microscope and the electric measuring- and recording instrument. As corrosion liquids 0.01n HCl + 0.03% H_2O_2 or 0.01n HCl + 0.2% H_2O_2 were used. Samples of cast iron with spherical graphite, steel ЭИ-69 and cast iron 16-15-7T, as well as stabilized forging steel ЭИ 572 were investigated. The results obtained prove the theory of G. V. Akimov on the character of the potential

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change on structure surfaces; in a concrete case, for example, graphite and perlite have positive electrode potentials in relation to ferrite and in the system operate as cathodes. With the sample of cast iron 15-15-3T the assumption was proved that δ ferrite forms the cathode in the microcorrosion element austenite-δ ferrite. In order to obtain a comparison between samples under stress and those not under stress the potential differences between two samples, one under stress and one not under stress, were measured. For this purpose a special method was developed. From the graphical data obtained can be seen that there is a potential difference which increases with the increase of the stress applied, and that this increase is proportional to the current of the corrosion power. With the samples of steel ЭЯ69 a special tendency for intercrystalline corrosion was observed. The potential difference between the grain bodies and the grain boundaries leads to dangerous corrosion phenomena-crack corrosion. The electro-chemical factors, according to the results obtained, play an important part in the phenomenon

The Micro - **Electro** - Chemical Method for the Investigation of the Corrosion of Metals under Stress. 3-2-15/60

of crack corrosion. There are 7 figures, and 3 references, 3 of which are Slavic.

ASSOCIATION: Central Scientific Research Institute for Technology and Machine Building (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya)

AVAILABLE: Library of Congress

1. Metals-Corrosion 2. Corrosion research-USSR

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Abramova, V. N.

18(7) PHASE I BOOK EXPLOITATION SOV/2296

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Korroziya i zashchita metallov v mashinostroyenii (Corrosion and Protection of Metals in the Machine-building Industry) Moscow, Mashgiz, 1959. 347 p. (Series: Its: [Sbornik] kn. 92) 3,500 copies printed.

Ed.: A. V. Ryabchenkov, Doctor of Chemical Sciences, Professor; Ed. of Publishing House: A. I. Sirotin, Engineer; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for designers, technologists, and industrial and research workers concerned with corrosion and corrosion protection of metals.

COVERAGE: This collection of articles deals with problems of corrosion and metal protection under investigation at TsNIITMASh during the past two years. The articles discuss stress corrosion, intergranular corrosion, scale and heat resistance of austenitic steels in gaseous media, protective coating, fretting corrosion, and resistance of metals to cavitation. No personalities are

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mentioned. References follow each article.

TABLE OF CONTENTS:

PART III. PROTECTIVE COATINGS

PART IV. INVESTIGATIONS OF FRETTING CORROSION AND CAVITATION

AVAILABLE: Library of Congress

RYABCHENKOV, A.V., doktor khim. nauk, prof.; NIKIFOROVA, V.M., kand. tekhn. nauk; ABRAMOVA, V.F., inzh.

Methods of microelectrochemical analysis of corrosion of stressed metals. Trudy TSNIITMASH 92:5-18 '59. (MIRA 12:8)
(Microchemistry) (Corrosion and anticorrosives)

ABRAMOVA, V.F.; NAGAYEVA, A.G.; USUBAKUNOV, M.; BLESHINSKIY, S.V.

Quantitative determination of indium. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 2 no.11:67-77 '60. (MIRA 14:10)
(Indium--Analysis)

BLESHINSKIY, S.V.; KHARAKOZ, A.Ye.; LUKIN, I.N.; BABENKO, V.G.; CHALOVA, Ye.P.; Prinimali uchastiye: ABRAMOVA, V.F.; VINOGRADOV, V.P.; USUBAKUNOV, M.; GORBUNOV, V.D.; OSIPOVA, T.P.; NAGAYEVA, A.G.; MEDVEDEVA, V.A.; ALTYNNIKOVA, P.M.

Fluosilicic method for separating rare-earth elements. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 5 no.4:23-24 '63. (MIRA 16:10)

BLESHINSKIY, S.V.; KHARAKOZ, A.Ye.; ABRAMOVA, V.F.; VINOGRADOV, V.P.; BABENKO, V.T.; KACHKIMBAYEVA, S.A.; Prinimali uchastiye: USUBAKUNOV, M.; NAGAYEVA. A.G.; GORBUNOV, V.D.; MEDVEDEVA, V.A.; CHALOVA, Ye.P.; ALTYNNIKOVA, P.M.

Method for separating rare-earth elements based on the thermal dissociation of sulfates. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 5 no.4:25-26 '63. (MIRA 16:10)

BLESHINSKIY, S.V.; NAGAYEVA, A.G.; ABRAMOVA, V.F.

Thiocyanatomercurate-radiometric method for determining zinc.
Izv. AN Kir. SSR. Ser. est. i tekh. nauk 5 no.4:27-33 '63.
(MIRA 16:10)

ACC NR: AT7001351 SOURCE CODE: UR/0000/66/000/0144/0150

AUTHOR: Eleshinskiy, S. V.; Kharakoz, A. Ye.; Osipova, T. P.; Abramova, V. F.

ORG: none

TITLE: Carbonate method of separating rare earth elements

SOURCE: AN KirgSSR. Institut neorganicheskoy i fizicheskoy khimii. Issledovaniya po khimii redkikh i soputstvuyushchikh im elementov (Studies in chemistry of rare and other accompanying elements). Frunze, Izd-vo Ilim, 1966, 144-150

TOPIC TAGS: carbonate, rare earth element

ABSTRACT: A method was developed for directly separating rare earth elements from acid extracts of ore and concentration "tailings," omitting the stage of precipitation of iron and other associated elements. The method is based on the difference in the precipitation pH of carbonates of rare earth elements, aluminum, iron and other elements, and the coprecipitation of the rare earth carbonates with aluminum hydroxide. Experiments on artificial mixtures showed that 98.50% of the rare earth elements are extracted at pH 5.5, and 99.40 are extracted at pH 6. The method can also be used to separate large quantities of iron and aluminum from rare earth elements. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 07/ SUBM DATE: 15Apr66/ ORIG REF: 002

Card 1/1

BUNIN, K.V.; YAGODINA, A.F.; NOVAKOVSKAYA, A.A.; ABRAMOVA, V.I. (Moskva)

Using disulfomin in acute dysentery. Klin.med. 35 [i.e.34] no.1 Supplement:32 Ja '57. (MIRA 11:2)

1. Iz kliniki infektsionnykh bolezney (zav. K.V.Bunin) I Moskovskogo ordena Lenina meditsinskogo instituta.
(DYSENTERY) (SULFANILANILIDE)

ABRAMOVA, V.I. (Cand. of Med. Sci.); RYKOVA, V.A. **Medicine**

"Experience in Eliminating Excretion of Dysentery Bacilli By Employment of Streptomycin in Combination With Ecmolin,"

p. 321 Ministry of Health USSR Proceedings of the Second All-Union Conference on Antibiotics, 31 May - 9 June 1957. p. 405, Moscow, Medgiz, 1957.

31882
S/170/62/005/001/011/013
B125/B104

11.4190

AUTHORS: Abramova, V. M., Kirillov, P. L.

TITLE: Critical parameters of alkali metals

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 1, 1962, 108 - 110

TEXT: The critical parameters $p_{crit} = \frac{1}{27}\frac{a}{b^2}$ (3), $T_{crit} = \frac{8}{27}\frac{a}{bR}$ (4), $V_{crit} = 3b$ (5) are obtained from van der Waals' equation with $(\partial p/\partial V)_{T_{crit}} = 0$ and $(\partial^2 p/\partial V^2)_{T_{crit}}$ (2). These relations are also valid for temperature-dependent a and b. Most of the conventional methods for calculating critical parameters were purely empirical. The requirement that a and b should be dependent on the parameters, though theoretically forbidden, nevertheless provides useful results. If only b depends on V (Von Lahr, Zeitschrift für allgemeine Chemie, 146, 263, 1925), the critical parameters are given by $T_{crit} = \frac{8\lambda}{27}\frac{a_{crit}}{b_{crit}}\frac{1}{R}$ (6), $p_{crit} = \frac{\lambda}{27}\frac{a_{crit}}{b^2_{crit}}$

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Critical parameters of alkali metals

$= \frac{RT_{crit}}{8} \frac{1}{b_{crit}}$ (7), and $V_{crit} = gb_{crit}$ (8) with $g \approx 2.0 - 2.1$ and $a\lambda = 27/28$.

In spite of the approximate calculation of b_{crit}, the errors involved in the determination of the critical pressure are small. A comparison of critical temperatures and pressures calculated in different ways indicates that the application of van der Waals' equation provides the most exact results. There are 2 tables and 15 references: 5 Soviet and 10 non-Soviet. The four most recent references to English-language publications read as follows: Evaus W. H. et al., Journal of Research of the National Bureau of Stand., 55, 2, 83, 1955; Liquid Metals Handbook, ed. R. Lyon, 1955; Andradeda E. N., Dobbs E. K. Proc. Phys. Soc., A 211, 1104, 1952; Meissner H. P., Redding E. M., Industrial and Engineering Chemistry, 34, 121, 1942.

SUBMITTED: July 21, 1961

Card 2/2

ABRAMSON, V.M., inzh.; SHTITEL'MAN, S.I., inzh.

Signaling network for dispatcher control of continuous lines. Prom. energ. 18 no.8:12-13 Ag '63. (MIRA 16:9)
(Automatic control)

L 14258-66 RD

ACC NR: AT6003906 SOURCE CODE: UR/2865/65/004/000/0670/0675

AUTHOR: Tsvetkova, I. V.; Shaydarov, Yu. I.; Abramova, V. M.

37
B+1
2,44

ORG: none

TITLE: Special features of plant feeding under conditions of aeroponic cultivation for a closed system

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 670-675

TOPIC TAGS: aeroponics, plant physiology, metabolic waste, fertilizer, sodium chloride, closed ecology system, test chamber, toxicology, excretion, plant growth

ABSTRACT: In order to grow higher plants in closed ecological systems it is necessary to use mineralized products of human wastes. The danger of this procedure stems from the presence of excessive amounts of NaCl in mineralized wastes. In order to evaluate the hazard of NaCl toxicity, experiments were performed at the Artificial Climate Station of the Institute of Plant Physiology of the Academy of Sciences, USSR. For this purpose

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sprouts of Chinese cabbage were grown aeroponically. Their roots, suspended in air in a closed compartment, were automatically sprayed with nutrient solutions for 30 sec every 20 min. Aeroponics, with its absence of a substrate, has weight-saving advantages for spaceflight purposes. Three types of nutrient solutions were used: a normal solution without additional salts, the same with NaCl added (0.02--2.0% Cl ions), and solutions composed of mineralized products of human metabolism to which corrective amounts of nitrogen, phosphorus, and calcium were added. The pH of the solution was maintained at 5.8. The temperature of the chamber ranged from 20 to 25° C, the humidity from 70 to 80%.

Not only did the use of mineralized human wastes not have any toxic effects, but it brought about a stimulation of growth, as indicated by a higher rate of absorption of basic elements of mineral nutrition. On the other hand, the standard nutrient solution used turned out to have toxic properties. But nutrient solutions to which up to 0.1% NaCl had been added did not manifest toxic properties. Apparently, the presence of NaCl in the nutrient solution prevents the accumulation of soluble toxic products of the

L 14258-66
ACC NR: AT6003906

root metabolism or those of the microflora. The addition of NaCl to the mineral nutrient solution caused a sharp increase in absorption of sodium and chlorine ions by the plant. Additions of NaCl of up to 2% did not have any adverse effects on plant growth. On the contrary, the addition of NaCl to the nutrient solution caused a significant increase in the raw weight of the plant although the dry weight was approximately equal to that of plants grown on nutrient solution without additional NaCl. Apparently, the addition of NaCl causes the plant cells to absorb more water, resulting in extra succulence.

Plants grown aeroponically have been shown to possess a higher degree of resistance to salt, apparently because of better aeration and water supply of the root systems. Tests have indicated that even significant concentrations of chlorine in aeroponic culture do not have a toxic effect on the plants. Consequently, the high amount of chlorides in the mineralized products of human metabolism will not result in death of the plants, provided they are grown aeroponically. Orig. art. has 5 tables.

[ATD PRESS: 4091-F]

SUBJ CODE: 06 / SUBM DATE: none / ORIG REF: 010 / OTH REF: 005

Card 3/3

L 08270-67 EWT(1) SCTB DD/GD

ACC NR: AT6036465 SOURCE CODE: UR/0000/66/000/000/0009/0010

AUTHOR: Abramova, V. M.; Gertsuskiy, D. F.; Alekseyenko, L. V.; Nevzgodina, L. V.; Popkova, S. A.

17
B+1

ORG: none

TITLE: Sensitivity of potato seeds to proton and gamma radiation (Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966)

SOURCE CODE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 9-10

TOPIC TAGS: ionizing radiation biologic effect, relative biologic efficiency, cosmic radiation biologic effect, radiation genetic effect, plant genetics

ABSTRACT:

Proton irradiation is the greatest spaceflight hazard to the plant link in a closed ecological system. Unfortunately, little is yet known about the RBE of protons as compared with x-rays or gamma rays. Experiments were conducted to study the RBE of protons and gamma rays for higher plants. Potato seeds were irradiated with 660-Mev protons (dose power 84 rad/sec) from and OIYAI synchrocyclotron or with gamma rays from an EGO-4 apparatus in a dose range from 500—50,000 rad (dose power

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ACC NR: AT6036465

'182 rad/min). Experimental results showed that potato seeds are twice as resistant to radiation as potato tubers. In addition, it was found that proton irradiation caused more significant changes in the growth and development of potato seedlings than gamma irradiation. The LD_{100} for proton-irradiated seeds is about 30,000 rad: for gamma-irradiated seeds the LD_{100} is more than 50,000 rad. These results agree with literature data. Doses from 500 to 10,000 rad were found to stimulate tuber formation, while doses above 10,000 rad depressed this process. From these data it was determined that the RBE of 660-Mev protons varies from 0.5 to 2.3. Study of the effect of radiation on the chromosome structure of the cell showed that for protons the coefficients of RGE (Relative Genetic Effectiveness—defined as the percentage of cells with chromosome aberrations) in the dose range 500—50,000 rad vary from 0.7—2.6. A close correspondence between extremal values of RBE and RGE of 660-Mev protons for potato seeds was observed. Literature data and results of these experiments show that a year is sufficient to produce a potato crop from seeds. It was concluded that cultivation of potatoes from seeds can be of great practical value on long spaceflights, especially during radiation emergencies.

[W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

ACC NR: AT6036528 SOURCE CODE: UR/0000/66/000/000/0117/0118

AUTHOR: Gertsuskiy, D. F.; Nevzgodina, L. V.; Alekseyenko, L. V.; Abramova, V. M.; Smirennyy, L. N.

ORG: none

TITLE: Evaluation of radiation hazard for plants in space greenhouses [Paper presented at the Conference on Problems of space medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 117-118

TOPIC TAGS: cosmic radiation biologic effect, life support system, radiation genetic effect, plant genetics, space food, ionizing radiation biologic effect, proton radiation biologic effect, relative biologic efficiency

ABSTRACT: Plants in a space greenhouse must be both highly productive and sufficiently radioresistant. In this work the effect of proton and gamma irradiation on some higher plants was studied, and the RBE of 660-Mev protons was determined. Potato tubers, beans, beets, and lettuce are usually classified among radiosensitive plants. Experiments showed that with a 4000-rad dose of gamma rays only a few potato tubers sprouted.

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ACC NR: AT6036528

It was found that doses of gamma rays from 1000—5000 rad and a proton dose of 250 rad (not higher) had a stimulating effect on potato growth. However, when potato seeds (which are much more radioresistant than tubers) were irradiated, a proton dose of approximately 40,000 rad was required to kill the plants, or a dose of gamma rays in excess of 50,000 rad. Of this group, beets, beans, and lettuce are slightly more radioresistant than potato tubers. Radioresistant plants include cabbage, carrots, radishes, and tomatoes. Doses of more than 200,000 rad were required to kill cabbage, radish, and carrot plants, and the range of stimulating doses was correspondingly higher.

The experiments described in this article were conducted to determine the RBE and RGE (Relative Genetic Effectiveness—the percentage of cells with chromosome rearrangements) of 660-Mev protons as compared with Co^{60} gamma rays during irradiation of seeds of the following plants in the dose range indicated: potato—0.5—50, cabbage—0.5—250, and carrot—0.5—100 rad. The RBE of portons increased with increased dosage from 0.7 to 2.6, 1 to 3.6, and 1 to 11, respectively. These experimental data suggest that a relationship exists between the RGE value and the general radioresistance of the plants. It was observed that limits of change in RBE coefficients (the criterion is the potato yeild) and RGE values of 660-Mev

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ACC NR: AT6036528

protons for potatoes in the dose range 500—50,000 rad, coincide. This is interesting in view of a possible correlation between the observed genetic effects and subsequent changes in plant development. / N. A. No. 22; ATD Report 66-116/

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

ACC NR: AT6036529 SOURCE CODE: UR/0000/66/000/000/0119/0120

AUTHOR: Gertsuskiy, D. F.; Abramova, V. M.; Alekseyenko, L. V.; Sychkov, M. A.; Popkova, S. A.; Petrenko, L. M.

ORG: none

TITLE: Effect of 660-Mev protons and gamma rays on potato tubers irradiated before planting /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966./

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 119-120

TOPIC TAGS: ionizing radiation biologic effect, cosmic radiation biologic effect, relative biologic efficiency, plant genetics, radiation genetic effect, space food, bioastronautics

ABSTRACT: The effect of 660-Mev protons and Co^{60} gamma rays on potato tubers (variety "Khibinskiy ranniy") was studied. Tubers were irradiated with 660-Mev protons from an OIYAI synchrocyclotron and gamma rays from an EGO-2 apparatus in the 250—10,000 rad dose range. The experiment was conducted in field conditions in three parts (50 specimens each). The following indices of radiation effect were used: germination, tempo

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of development, number of tubers, and their total weight.

Ionizing radiation is known to affect both the growth and development rates and the productivity of the potato: small doses have a stimulating effect and large doses a depressing effect. Experimental results showed that a proton dose of 250 rad or a dose of gamma rays from 500 to 1000 rad stimulates the appearance of seedlings and the beginning of budding. A considerable depressing effect was noted beginning with doses of 500 rad (protons) and over 1000 rad (gamma rays). Analagous results were obtained with respect to the number of stalks from one tuber and the height of the plants.

Potato productivity changes under the influence of radiation. The general rule of decrease in productivity with increase in dose is retained. This may be explained by the smaller number of tubers per experimental plant with all the doses used. The average number of tubers per plant was six with a 500-rad dose of protons, and eight for the same gamma-ray dose (as compared with nine in the control). Visual observations of full-grown plants showed that the stimulating effect of small radiation doses is most strongly manifested in initial developmental phases, and disappears gradually with time. In the period before blossoming, it is already difficult to detect the stimulating effect of a 250—500-rad dose. The depressing

ACC NR: AT6036529

effect of large radiation doses also seems to attenuate with time. Seventy days after planting, individual seedlings sprouted from specimens irradiated with a dose of 4000 rad. Doses of either gamma rays or protons higher than 4000 rad completely prevented germination: however, the tubers did not rot in the ground and retained their turgor. Experiments showed that potato tubers are radiosensitive and that protons have a greater effect on their growth, development and yield than gamma rays. [N. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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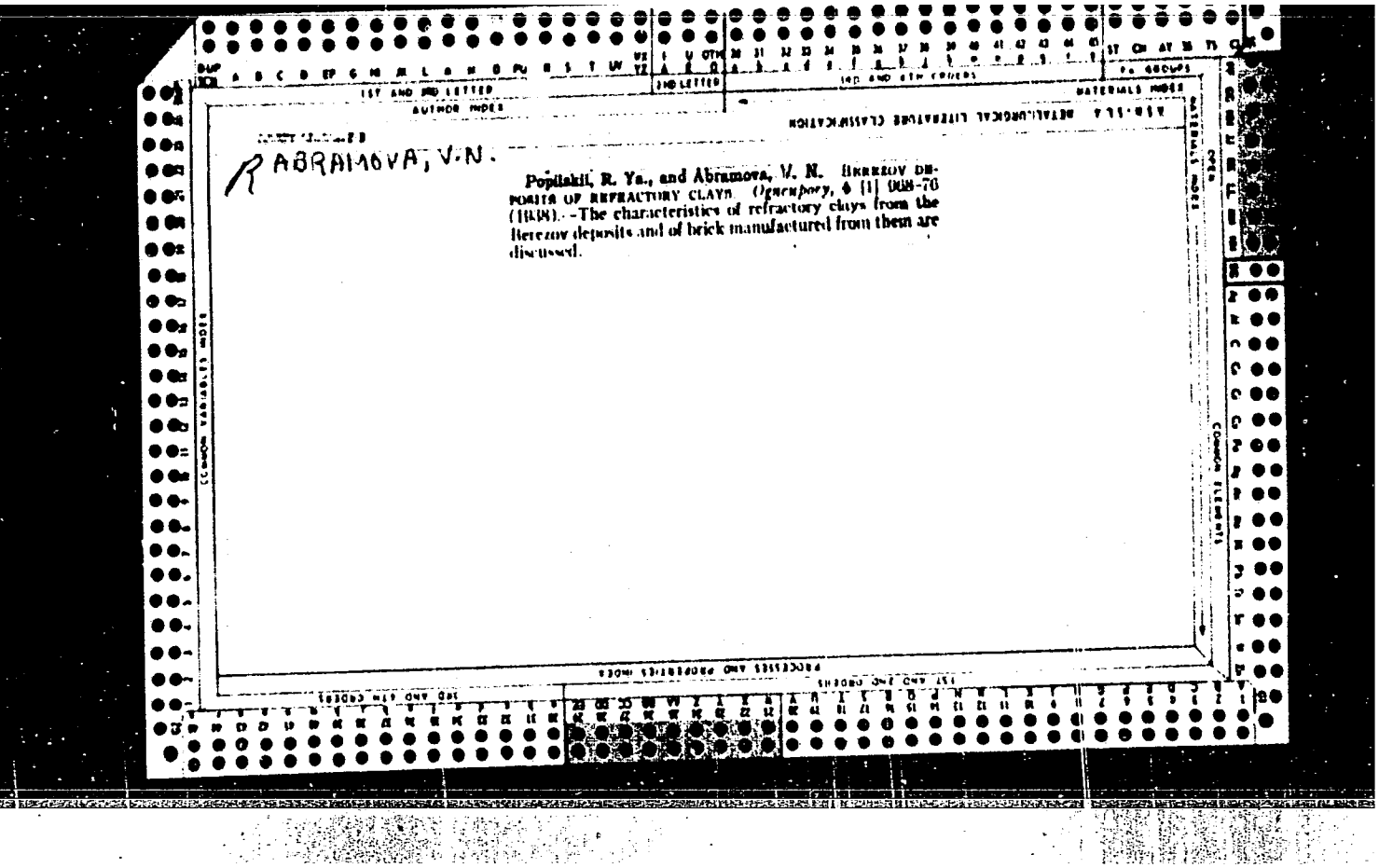


ABRAMOVA, V.N.

Popilskii, R. Ya., and Abramova, V. N. BEREZOV DEPOSITS OF REFRACTORY CLAYS. *Ogneupory*, 6 [1] 008-76 (1941).--The characteristics of refractory clays from the Berezov deposits and of brick manufactured from them are discussed.

ABRAMOVH, V.N.
A.C.S.

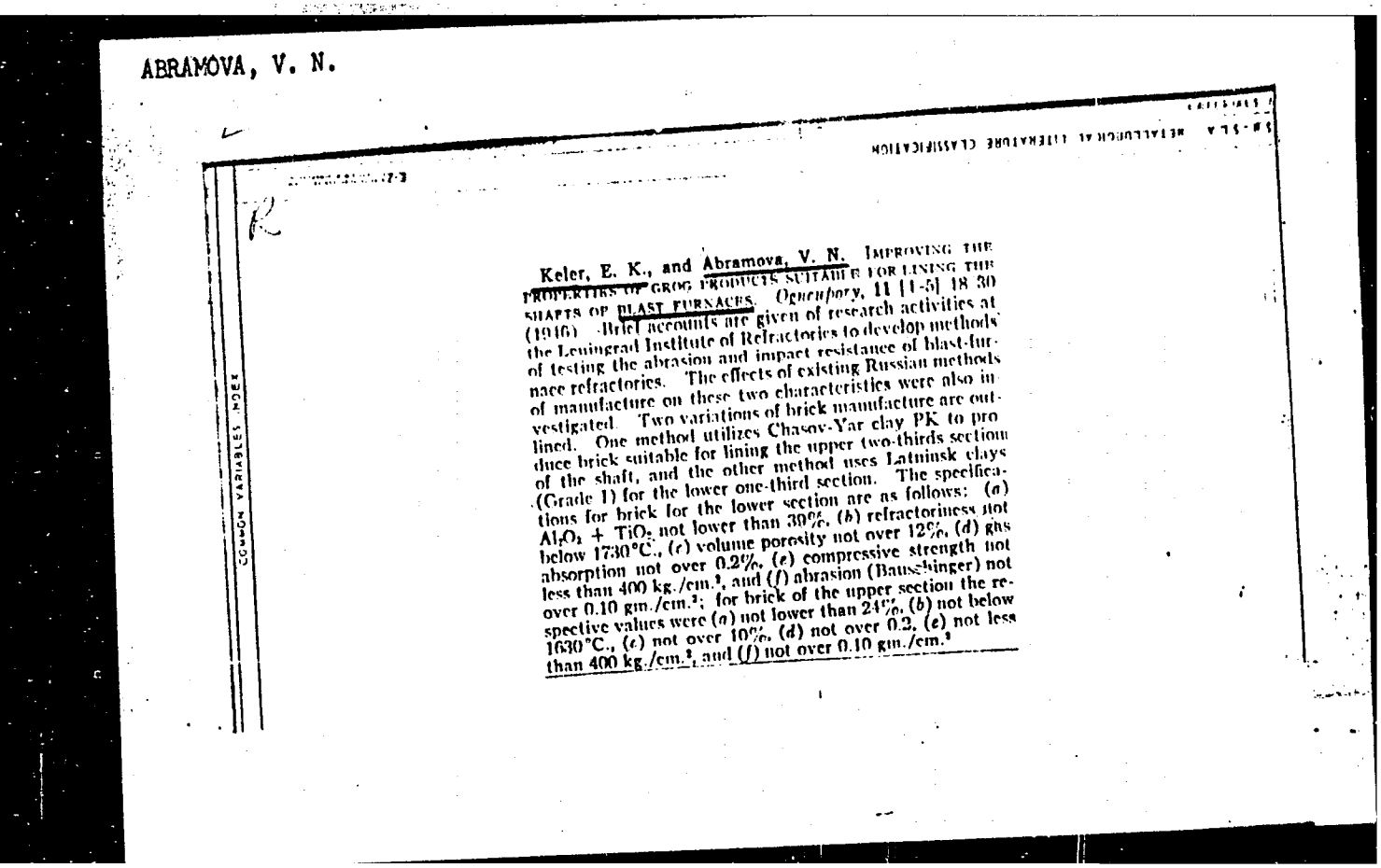
Refractories

Conditions for obtaining thermally stable brick of low-fired chamotte. E. K. Kraz and V. N. Abramova. *Ogneupory*, 1945, No. 4/5, pp. 9-17.—A high thermal resistance is frequently required of refractories in addition to slag resistance. For such purposes refractories of low-fired fire clay are customarily employed. This investigation dealt with some of the factors affecting the quality of this type of refractories. The factors investigated were (1) size analysis, (2) method of mixing the components, and (3) preparation of the body and shaping. In all bodies, the ratio of grog to clay was 60 to 40. The components were dry mixed and then moistened either with water or with the clay slip. The test pieces, regular-sized brick, were shaped manually in a wooden mold and subsequently pressed in an ordinary lever press, or they were made on a semi-industrial continuous press and the pressing was finished in a lever press. On the test pieces the following properties were determined: porosity, volume weight, tensile strength, and also, on many of the specimens, slag resistance and load deformation at high temperatures. The low-temperature grog used was fired at 750° and subsequently ground in a Blake crusher and on rolls. For comparison, test pieces were also made of grog fired at P.C.E. 135. With regard to the effect of size distribution, it was observed that the porosity, tensile strength, and slag resistance were the same whether the upper limit was 10 mm. or 3 mm. The elimination of the small fractions (0.5 mm. and below) did not affect the porosity or slag resistance but lowered the tensile strength. Elimination of the middle fractions (3 to 0.5 mm.) did not affect the slag resistance, somewhat lowered the porosity, but greatly increased the tensile strength. Greatly decreasing the large sizes (10 to 6 mm.) and compensating by increasing the medium sizes raised the tensile strength but did not affect the other properties investigated. The slip method of preparing the body when the latter was shaped in a plastic state increased the porosity somewhat, did not change the slag resistance, and had a variable effect on tensile strength. In the semidry method of shaping the body, the use of water instead of a slip increased the porosity and lowered the tensile strength. Raising the pressure when working with semidry bodies lowers the porosity and raises the tensile strength and slag resistance. The experimental results led to the following conclusions: (1) The grog should be prepared from a clay which has a higher thermal contraction than the clay used

in the body; this gives the grog particles some freedom of displacement in the firing of the brick. (2) As binder, a clay having a thermal contraction similar to that of the clay should be used for grog. This prevents the rise of strains in the fired product. (3) A coarse-grained grog should be used of a size that still insures the required tenmolding it is advisable to eliminate the use of a pugmill. The slag resistance is increased by passing the body 2 or 3 times through an auger machine. Wherever possible, it is advisable to use all the clay in the form of a slip. To the slip are first added the small and then the larger fractions with constant stirring. For sensitive pressing it is advisable to moisten the grog with a clay slip using a suspension containing about 15% clay. For heat-resistant brick a grog of 6 to 7 mm. size and the use of moderate pressures are preferred. If at the same time the brick is required to be slag-resistant, it is preferable to use a smaller size grog, e.g., 3 mm., containing 45 to 50% of material smaller than 0.5 mm. The pressure in this case should be higher. Following these conclusions brick were prepared from Latninsk and from Chasov Yar clays. The brick was made of 85% grog and 15% clay, the latter supplied in the form of a slip. The moisture content of the body was 18 to 20%. The upper size of the grog was 10 to 15 mm. The brick was semidry pressed under 150 kg. per cm.^{2}. The properties of the products from the Latninsk and Chasov Yar clays were, respectively, porosity (%), 12 to 14 and 7 to 10; volume weight in gm. per cc., 2.29 to 2.32 and 2.22 to 2.25; resistance to compression in kg. per cm.^{2}, 370 to 388 and 600 to 1200; thermal resistance (thermal shocks determined according to standard 2267), 12 to 17 and 13 to 35; and slag corrosion (cc. determined according to standard 2770), 172 to 202 and 157.

M. Ho.

ABRAMOVA, V. N.



Keler, E. K., and Abramova, V. N. IMPROVING THE PROPERTIES OF GROG PRODUCTS SUITABLE FOR LINING THE SHAFTS OF BLAST FURNACES. *Ogneupory*, 11 [1-5] 18-30 (1946). Brief accounts are given of research activities at the Leningrad Institute of Refractories to develop methods of testing the abrasion and impact resistance of blast-furnace refractories. The effects of existing Russian methods of manufacture on these two characteristics were also investigated. Two variations of brick manufacture are outlined. One method utilizes Chasov-Yar clay PK to produce brick suitable for lining the upper two-thirds section of the shaft, and the other method uses Latninsk clays (Grade 1) for the lower one-third section. The specifications for brick for the lower section are as follows: (*a*) $Al_2O_3 + TiO_2$ not lower than 30%, (*b*) refractoriness not below 1730°C., (*c*) volume porosity not over 12%, (*d*) gas absorption not over 0.2%, (*e*) compressive strength not less than 400 kg./cm.², and (*f*) abrasion (Bausshinger) not over 0.10 gm./cm.²; for brick of the upper section the respective values were (*a*) not lower than 24%, (*b*) not below 1630°C., (*c*) not over 10%, (*d*) not over 0.2, (*e*) not less than 400 kg./cm.², and (*f*) not over 0.10 gm./cm.²

MALAFEYEV, N.A.; MALYUSOV, V.A.; UMNIK, N.N.; SAKODYNSKIY, K.I.; ZHAVORNOKOV, N.M. Prinimali uchastiye: PODGORNAYA, I.V.; ABRAMOVA, V.P.; BARANOVA, V.I.

Determination of the fractionation factors of binary mixtures tetrachloroalkanes during vaporization in a high vacuum. Khim.prom. no.3:196-198 Mr '61. (MIRA 14:3)
(Paraffins) (Distillation, Fractional)

POZNYAK, L.A.; SHTEYN, F.S.; SOLTYK, V.Ya.; ABRAMOVA, V.P.

Exchange of experience. Zav.lab. 28 no.5:598 '62. (MIRA 15:6)

1. Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya (for Poznyak, Shteyn). 2. Institut liteynogo proizvodstva AN USSR (for Soltyk). 3. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (for Abramova).

(Metals--Testing)

S/129/63/000/003/006/009
E193/E383

AUTHORS: Astaf'yev, A.A., Abramova, V.P., Kondrashev, A.I., and Manuylova, V.P.

TITLE: Combined forging and hardening of large parts

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1963, 24 - 28

TEXT: The object of the present investigation, conducted by TsNIITMASh in cooperation with the Novo-Kramatorskiy mashinostroitel'nyy zavod (Novo-Kramatorsk Machine-building Works), was to explore the possibility of hardening large forgings of carbon and low-alloy steels by quenching directly after the hot-forging operation. The experiments were conducted on stepped forgings, 300 and 500 mm in diameter, made from basic open-hearth steel 45 and basic steel 40XH (40KhN), smelted in an electric furnace. The blanks were preheated to 1 200 °C. The forging operation lasted 22 - 48 min, the reduction given being 5 and 1.9 for steps of 300 and 500 m in diameter, respectively. The following three variants of hardening treatment were studied: 1 - quenching immediately after the forging operation; 2 - quenching after holding the

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forging at 850 °C for 4 hours (steel 45) or 1.5 h (steel 40KhN); 3 - quenching after forging, tempering, reheating and quenching again. Steel 45 forgings were water-quenched (cooling time - 15-20 min); steel 40KhN test pieces were oil-quenched (cooling time 63 - 76 min) and transferred to a tempering furnace when their surface temperature reached 200 °C. Both steels were tempered at 640-660 °C for 20 and 45 hours; experiments were also conducted on steel 40KhN, tempered at 550-570 °C for 25 hours. After tempering the forgings were cooled to 400 °C at a cooling rate of 40 °C/h and then to room temperature at 30 °C/h; the specimens tempered for 45 h were cooled in air. After the heat treatment test pieces were cut from the surface layer, from the region R/3 distant from the surface and from the central region of the forging; these were used for metallographic determination and for determining the mechanical properties of the forging. Typical results obtained for steel 45 forgings are reproduced in Fig. 1, where the UTS (σ_b, kg/mm^2), yield point (σ_s, kg/mm^2) impact strength (a_k, kgm/cm^2), reduction in area (ψ, %) and elongation (δ, %) are plotted against the distance (R, mm) from

Combined forging ....

the forging surface; curves 1-3 relate to forgings quenched immediately after forging, curves 4 to forgings quenched after 4 h at 850 °C and curves 5 to material quenched after a second reheating (tempering at 640-660 °C); diagrams a and b were constructed for steps 300 and 500 mm in diameter, respectively. Conclusions: 1) in the case of steel 45 forgings up to 500 mm in diameter, quenching immediately after hot forging does not give rise to flaking, irrespective of which part of the ingot is used for producing the forging. The same applies to steel 40KhN forgings of up to 300 mm in diameter. Flaking can, however, occur in steel 40KhN forgings of 500 mm in diameter, made from the top part of the ingot and quenched immediately after forging. 2) The mechanical properties of steel 45 forgings of up to 300 mm in diameter, quenched immediately after hot forging and given a high-temperature tempering, meet the requirements imposed by service conditions. 3) The results of the present investigation provide grounds for recommending that quenching after forging be used as the final heat treatment for medium-carbon steel forgings of up to 300 mm in diameter. In the case of steels 40KhN, 40Х (40Kh), 34ХМ (34KhM), 50Г (50G), 60Г (60G), 40ХНМ (40KhNM) et al quenching immediately

Combined forging ....

after hot forging should be applied as a preliminary heat treatment instead of prolonged annealing which is normally used after forging to prevent flaking. 4) Field trials conducted at the Novo-Kramatorsk Machine-building Works on forgings of up to 400 mm in diameter yielded satisfactory results. There are 3 figures.

ASSOCIATIONS: TsNIITMASh
Novo-Kramatorskiy zavod (Novo-Kramatorsk Works)

MASLENNIKOV, D.S., arkhitektor; Prinimali uchastiye: GOSTINTSEVA, starshiy tekhnik-meteorolog; ABRAMOVA, V.S., starshiy tekhnik-chertezhnik; IVANOV, V.K., maketchik-fotograf.

Sun exposure of building in block no.9 in Novyye Cheremushki. Issl.po mikroklim.nasel.mest i zdan.i po stroi.fiz. no.1:34-53 '62. (MIRA 15:9)

(Moscow—city planning)

ZAYONCHKOVSKIY, A.D.; BERNSHTEYN, M.Kh.; KIRIYENKO, N.V.; ABRAMOVA, V.V.; GUZIKHIN, N.S.; SHMERLING, B.M.; YABKO, Ya.A.; PEKAR, Ya.A.; PESHIKOV, F.V.

Artificial leather for the uppers of open summer footwear. Leg. prom. 16 no.1:20-23 Ja '56. (MLRA 9:6)
(Shoe industry) (Leather, Artificial)

ABRAMOVA, V.V., starshiy nauchnyy sotrudnik

Studying the rheological properties of polyvinyl chloride pastes. Nauch.-issl. trudy VNIIPIK no.14:147-156 '63. (MIRA 18:12)

ABRAMOVA, V.V., starshiy nauchnyy sotrudnik; PAVLOV, S.A., doktor tekhn. nauk, prof.

Bicarbonate of ammonium as a new pore-forming agent for the manufacture of suede type artificial leather. Kozh.-obuv. prom. 6 no.8:28-30 Ag '64. (MIRA 17:10)

ABRAMOVA, V.V., starshiy nauchnyy sotrudnik; PLOTNIKOV, I.V., kand. tekhn. nauk; FREYDGEYM, K.I., mladshiy nauchnyy sotrudnik; PISARENKO, A.P., doktor khim. nauk, prof.; PAVLOV, S.A., doktor tekhn. nauk, prof.

Manufacture of artificial suede type leather without salt washout. Nauch.-issl. trudy VNIIPIK no.14:156-163 '63. (MIRA 18:12)

KHOROSHAYA, Ye.S., kand. khim. nauk; KOROL'KOVA, K.D., mladshiy nauchnyy sotrudnik; ABRAMOVA, V.V., starshiy nauchnyy sotrudnik; FREYDGEMY, K.I., mladshiy nauchnyy sotrudnik

Rapid titration and refractometric method for determining moisture content of NH_4HCO_3. Nauch.-issl. trudy VNIIPIK no.14:167-170 '63. (MIRA 18:12)

IVANOV, Nikolay Stepanovich; GERSHANOV, Saveliy Vladimirovich; SHNEYDERMAN, K.A., red.; ABRAMOVA, Ye.A.

[Efficient use of machinery on collective farms] Ratsional'noe ispol'zovanie tekhniki v kolkhozakh. Rostov-na-Donu, Rostovskoe knizhnoe izd-vo, 1960. 54 p. (MIRA 14:3)
(Agricultural machinery)

TALYZINA, G.K., starshiy agronom-entomolog otryada po bor'be s saran-
chovymi; ABRAMOVA, Ye.A.

Dust mixtures against grain beetles. Zashch. rast. ot vred. i bol.
5 no.4:29 Ap '60. (MIRA 13:9)
(Beetles) (Grain--Diseases and pests)

AR-AKOVA, YE. A.

Dissertation: --"Processes of Authigenous Formation in the Container-Rocks of the Devonian System of the Kuybyshev and Saratov Regions of the Volga." Cand Geol-Min Sci, Inst of Petroleum, Acad Sci USSR, 17 Jun 54 (Canceled). (Vechernyaya Moskva, Moscow, 8 Jun 54)

SO: Sum 318, 23 Dec. 1954

ABRAMOVA, Ye.A.

Authigenic minerals in sand and silt of Devonian deposits in the Kuybyshev and Saratov regions of the Volga Valley and their effect on rock porosity. Trudy Inst.nefti 7:193-201 '56. (MLRA 10:1)
(Porosity) (Volga Valley--Geology, Stratigraphic)

ABRAMOVA, Ye.A.

Distribution of authigenic minerals in Devonian oil reservoir rocks of the Volga Valley. Trudy Inst.nefti 9:191-205 '58.
(MIRA 12:4)

(Volga Valley--Mineralogy)

AKRAMOVA, Ye.A.; MUNTE, S.L.; SHEMKOV, N.K.

Fibers from solutions of low-substituted xanthogenates. Zhur.prikl. khim. 30 no.12:1815-1820 D '57. (MIRA 11:1)
(Textile fibers, Synthetic) (Xanthic acids)

Modern Research in the Field of Cellulose Ester. Inter-Urban Seminar in Leningrad

S. N. Danilov closed the seminar expressing his confidence that soon a number of new cellulose derivatives will be used. In the resolution adopted the necessity of a large-scale expansion of the research of cellulose and its derivatives was pointed out.

Modern Research in the Field of Cellulose Esters. Inter-Union Seminar in Leningrad

high-molecular compounds. N. I. Nikitin talked on the research of weak surface etherization of cellulose materials. V. I. Sharkov reported on his work with acryl-dien derivatives and cellulose sulfates soluble in water. V. I. Gribkova holds the opinion that the possibilities of modifying the properties of cellulose are limited by the problem of introducing big radicals without destroying the structure of the cellulose. V. I. Ivanov lectured on the necessity of expanding the scope of theoretical studies in the field of cellulose structure and on the need of training cellulose experts. O. P. Koz'mina on aging and oxidative decomposition of cellulose ester. T. I. Samsonova on the research of the poly-dispersion as well as of the hydro-dynamic and structural mechanical properties of ethyl cellulose. Ye. N. Matv[illegible] on the method of obtaining "vaccinated" polymers from both simple and complex esters. Ye. P. Kuznetsova (Okhta Chemical Kombinat) on the process of acetylenization in the stationary cellulose layer. M. Z. Finkel'shteyn on the best brands of carboxy-methyl-cellulose to be used as washing agents, lubricants and emulsifiers, which were recommended by the Moskovskiy neftyanoy institut im. I. M. Gubkina (Moscow Institute of Mineral Oils imeni I. M. Gubkin).

15(6) SOV/30-58-11-42/48

AUTHOR: Abramova, Ye. A., Candidate of Chemical Sciences

TITLE: Modern Research in the Field of Cellulose Ester (Sovremennyye issledovaniya v oblasti efirov [illegible]) Inter-Urban Seminar in Leningrad (Mezhdugorodniy seminar v Leningrade)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 11, pp 128-130 (USSR)

ABSTRACT: The Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-Molecular Compounds of the AS USSR) held this seminar in Leningrad from April 24 to 25. It was devoted to an exchange of experiences, to coordination of work and to the determination of the most promising trends of research in the field of cellulose and its derivatives. Present at the seminar were the representatives of scientific research institutions, of the universities and of enterprises working in this field in Leningrad, Moscow, Riga, Vladimir, Rostov-na-Donu, Ivanovo and other cities. The following lectures were delivered: Z. A. Rogovin noted that in the opinion of many researchers an emphasis upon the chemistry of synthetic polymers would reduce the importance of natural and of artificial polymers obtained by chemical processing of natural

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Comparative Distribution of Carbon Disulfide in Main and Side Reactions Occurring in the Synthesis of Viscose at Low and Usual Temperatures

SOV/79-28-12-11/41

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-Molecular Compounds, Academy of Sciences, USSR)

SUBMITTED: January 23, 1958

Card 3/3

Comparative Distribution of Carbon Disulfide in Main and Side Reactions Occurring in the Synthesis of Viscose at Low and Usual Temperatures SOV/79-28-12-11/41

30, 38 and 40 % carbon disulfide being used. The author started in any case from one and the same cellulose. In carrying out the general activation process of cellulose for the synthesis of viscose at low temperatures the reaction equilibrium is displaced in the direction of the formation of cellulose xanthate. When using from 15 to 40 % carbon disulfide at low temperatures, xanthates of a degree of substitution of from 25 to 80 may be obtained, whereas this percentage amounts to only 35-50 % according to the usual process of "xanthation". In the case of lower alkalinity of the viscose solutions the distribution of carbon disulfide between the main and side reactions is displaced towards the formation of cellulose ester. There are 4 tables and 3 references, 2 of which are Soviet.

Card 2/3

AUTHOR: Abramova, Ye. A. SOV/79-28-12-11/41

TITLE: Comparative Distribution of Carbon Disulfide in Main and Side Reactions Occurring in the Synthesis of Viscose at Low and Usual Temperatures (Sravnitel'noye raspredeleniye serougleroda na glavnuyu i pobochnyye reaktsii pri nizkotemperaturnom i obychnom reshimakh polucheniya viskozy)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3217-3219 (USSR)

ABSTRACT: In some reports the dependence of the physico-mechanical properties of viscose fibers and the degree of substitution of the xanthate on an equal distribution of the ester groups along the chain is pointed out. The more ester groups there are in the xanthate and the more equal their distribution, the more uniform is their fiber structure. In earlier papers of the authors (Refs 2, 3) it was shown that in the viscose formation at low temperatures a more favorable distribution of the carbon disulfide towards the side of the esterification with a low consumption of carbon disulfide is observed. In the present paper the comparative distribution of carbon disulfide at low and higher temperatures is investigated, with 15, 20,

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